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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,610	08/25/2003	Qinbai Fan	GTI-1429-CIP	2842

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EXAMINER	
MERCADO, JULIAN A	
ART UNIT	PAPER NUMBER
1745	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/647,610	FAN ET AL.	
	Examiner	Art Unit	
	Julian Mercado	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed December 22, 2006.

Claims 1-17 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed "zero amount of nitrogen" appears to be drawn to an *absence* of nitrogen insofar as no nitrogen is added to the alloy mixture. However, it is the position of the examiner that nitrogen is intrinsically present at a non-zero amount in austenitic steel alloys, thus, the claimed "zero amount of nitrogen" whether by 1) the omission of an addition step or 2) inherent composition is not considered to satisfy the enablement requirement of 35 U.S.C. 112, first paragraph.

Applicant's argument—that the invention is fully enabled, has been fully considered but is not found persuasive. The examiner maintains the lack of enablement requirement for the reasons of record and for the additional reasons to follow in maintaining the prior art rejections

below, reasons which when considered as a whole are deemed equally applicable in maintaining the 35 U.S.C. 112, first paragraph rejection.

Claim Rejections - 35 USC § 102 and 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8, 10 and 12-17 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hornung et al. (U.S. Pat. 6,300,001 B1).

Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hornung et al. in view of Koncar et al. (U.S. Pat. 5,942,347).

The rejection(s) based on Hornung et al. either singly or in combination with Koncar et al. are maintained for the reasons of record. The examiner notes that the present claims are as previously presented with no amendments. Applicant's arguments filed with the present response have been fully considered, however they are not found persuasive. The examiner's response to each of applicant's salient arguments here follows.

Applicant argues that if Hornung et al. does not teach a positive step of nitrogen addition, then it also does not specifically teach that the nitrogen present is endogenous or inherent. In reply, the examiner respectfully disagrees with the latter assertion in that Hornung et al. *does* teach that nitrogen is present—albeit in small amounts at 0.02 wt. %. (col. 2 line 34)

Regarding the two prior art references, Sawaragi et al. and Hiramatsu et al., applicant submits that these prior art references suggest that the higher concentrations of nitrogen in the steel alloys of the Hornung et al. patent are the result of addition. This assertion (notably absent of column and line citation) is not persuasive, and is in fact contrary to what is taught for the reasons set forth in the prior Office action. See, for example, Hiramatsu et al. in col. 6 lines 8-21, reproduced herein for emphasis:

> N (nitrogen) is an austenite-forming element and is also known as an effective element for hardening austenite phase and martensite phase. Positive addition of N has therefore generally been considered advantageous for achieving high strength in stainless steels. In this invention, however, it was found that, owing to the adoption of Ti addition to be explained hereinafter, addition of N makes it difficult to obtain excellent fatigue property... it was found preferable from the viewpoint of obtaining the fatigue property desired of an ultra-high strength steel, **not to add N but rather to hold N content to a low level of not more than 0.02 mass %.**
> (emphasis added)

It is clear that by *not* employing the "[p]ositive addition of N", the amount of nitrogen is held "to a low level of not more than 0.02 mass %. Incidentally, this amount of nitrogen is also *the same amount* present in Hornung et al.

Applicant submits that the examiner has gone beyond the plain meaning of the words of the claims as otherwise required by MPEP § 2111.01, insofar as by "zero amount of nitrogen" the examiner has taken the interpretation of a zero amount of *added* nitrogen. Applicant then asserts that there is no discussion or even a hint of any steps for making the claimed austenitic

stainless steel in the subject application. In reply, page 7 lines 10-13 of the subject specification is cited as follows:

> The *addition* of nitrogen is one means by which such stainless steel plates are imbued with corrosion resistant properties. We have found that by increasing the amount of nickel in the stainless steel bipolar plate and by *eliminating nitrogen from the stainless steel composition*, the amount of Cr corrosion is reduced.
> (emphasis added)

Thus, it appears to the examiner that by "zero amount of nitrogen", applicant has expressed an intent to claim a zero amount of the element by 1) increasing the amount of nickel and 2) *eliminating* nitrogen from the composition. In referencing "[t]he addition of nitrogen as one means by which such stainless steel plates are imbued with corrosion resistant properties...", applicant's disclosure and inventive spirit is understood as being drawn to achieving corrosion resistance *absent* this positive step of nitrogen addition, i.e. "[w]e have found that by... eliminating nitrogen from the stainless steel composition, the amount of Cr corrosion is reduced."

Applicant's citation of the ASM Specialty Handbook and Table 1 is acknowledged. Applicant asserts that as shown therein, "*there are numerous stainless steels in which no nitrogen (0.00 wt. %) is indicated to be present.*" (emphasis as submitted) The examiner disagrees. There is nothing shown in the reference indicating that certain types of stainless steels have a 0.00 wt. % of nitrogen. Instead, the reference at best shows that certain stainless steels have a "..." wt. % max. To rely on "..." as being equal to 0.00 wt. % would be an improper extrapolation of what the reference actually teaches—that for these types of stainless steels, the amount of nitrogen is indeterminate.

In sum, as to paraphrase applicant's own words, "in order to overcome the rejection under 35 U.S.C. 112, first paragraph, as well as the rejections under 35 U.S.C. 102(e) and 35

U.S.C. 103(a), Applicants must present evidence that the presently claimed austenitic alloy has a zero, i.e. 0.00% of nitrogen by weight of the alloy." As set forth in the prior Office action, applicant is invited to submit evidence that the presently claimed austenitic alloy has a zero, i.e. 0.00 % of nitrogen by weight of the alloy.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jam

STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1700